MEDICAL JURISPRUDENCE†

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The Practice of Medicine and the Courts: Legal Status of Roentgenology, Clinical Pathology, and Anesthesiology

There are hundreds of cases in the United States dealing with the problem of what is and what is not included within the practice of medicine and surgery. In many cases the problem has been relatively free of doubt. In other cases, however, where particular subjects within the field of medicine have been concerned, the courts have experienced considerable difficulty. Perhaps the most perplexing have been roentgenology, clinical pathology, and anesthesiology.

Although there are a great number of cases containing discussions pro and con on the subjects of roentgenology, clinical pathology and anesthesiology and their status with respect to the practice of medicine, there are relatively few cases containing actual decisions on these issues. In most of the cases which have arisen, the question has been incidental to another issue. For example, in several actions based upon the alleged negligence of roentgenologists, a collateral issue has arisen as to whether or not persons trained in roentgenology, but not licensed physicians, could qualify as expert witnesses. In other cases of alleged negligence, the courts have had to decide whether or not a roentgenologist is to be governed by the standard of care which applies to physicians. It is regrettable that so many of the cases which discuss this problem have been proceedings in which the question was only a minor issue because the result has been that in many cases the point has not been given a great deal of time and attention by counsel and the courts. Considerable confusion and some conflict in the cases has arisen, due in large part, it is believed, to the casual way in which the problem has been handled—through no fault of anyone.

As a consequence, in the relatively few cases in which the question, is or is not roentgenology, clinical pathology, or anesthesiology, the practice of medicine, has been the main issue to be decided, the conclusions of the courts have been influenced by other decisions in which the point was only a side issue. This influence has not always had a tendency to produce a rational conclusion. We may illustrate this point by discussing a few cases which directly involve roentgenology, clinical pathology, and anesthesiology.

Roentgenology.—The case relating to roentgenology which has seemed to receive the greatest amount of publicity (no doubt due, in part, to its strange conclusion) is *Doumit* vs. *Diemer,* 144 Ore. 36, 23 Pac. (2d) 918, 103 A. L. R. 1247, which was decided in 1933. The Oregon court held that the practice of roentgenology is not included in the practice of medicine, and the amazing conclusion is then reached that a corporation may lawfully practice roentgenology. The Court states:

> It is competent for corporations to carry on the *business* of roentgenology.

The main issue in this case was whether or not the defendant was guilty of negligence. The portion of the opinion which discusses roentgenology is merely incidental to the decision on the main point. We believe the conclusion of the Court that roentgenology is not a part of the practice of medicine is erroneous, and we are led to believe that the result was reached in part because of insufficient consideration of the problem. Yet, whenever a case does arise which has for its main issue the problem of the status of roentgenology in relation to the practice of medicine, *Doumit* vs. *Diemer* will no doubt be cited and relied upon as authority for the untenable proposition which it espouses.

There are a number of well-reasoned cases which reach a contrary conclusion, but the fact remains that the decision of the Oregon court means that there is a conflict of judicial opinion on the subject.

†Editor's Note.—This department of CALIFORNIA AND WESTERN MEDICINE, containing copy submitted by Hartley F. Peart, Esq., will contain excerpts from and syllabi of recent decisions and analyses of legal points and procedures of interest to the profession.

Clinical Pathology.—This subject has, likewise, been treated quite incidentally in several cases. However, it has been more fortunate than roentgenology. The leading case, with respect to clinical pathology, is *Granger* vs. *Adson* (Minn. 1933), 250 N. W. 722. This case held that a layman who was furnishing, for a fee, subscribers with the result of urinalysis and blood-pressure tests, and either himself advising or passing on to subscribers the advice received by him from pathologists who made the urinalysis, was held to be unlawfully engaged in the practice of medicine. The Court specifically held that the procedures involved were an integral part of the practice of medicine.

Anesthesiology.—This subject has been the main issue in two leading cases. It first came before the Supreme Court of Kentucky in *Frank* vs. *South,* 175 Ky. 416, 194 S. W. 375, where it was held that the practice of anesthesiology did not constitute the practice of medicine within the meaning of the applicable Kentucky statute. It is to be noted that *Frank* vs. *South* involved the administration of general anesthetics by a nurse and that the Kentucky statute defining the practice of medicine specifically excluded "trained or other nurses." Later the same question came before the Supreme Court of California in *Chalmers-Francis* vs. *Nelson,* 6 Cal. (2d) 402. The California Court likewise held that the practice of anesthesiology is not the practice of medicine within the meaning of the California Medical Practice Act. The Court's opinion held that:

> . . . everything which was done by the nurse, Dagmar A. Nelson, in the present instance, and by nurses generally, in the administration of anesthetics, was and is done under the immediate direction and supervision of the operating surgeon and his assistants. Such method seems to be the uniform practice in operating rooms. There was much testimony as to the recognized practice of permitting nurses to administer anesthetics and hypodermics. One of the plaintiffs' witnesses testified to what seems to be the established and uniformly accepted practice and procedure followed by surgeons and nurses, and that is that it is not diagnosing nor prescribing by the nurses within the meaning of the Medical Practice Act. We are led further to accept this practice and procedure as established when we consider the evidence of the many surgeons who supported the contention of the defendant nurse, and whose qualifications to testify concerning the practice of medicine in this community and elsewhere were established beyond dispute.

The cases relating to roentgenology, clinical pathology, and anesthesiology may be summarized as follows: With respect to roentgenology, the courts are divided—some stating that it is the practice of medicine, and others expressing the opinion that it is not. With respect to clinical pathology, judicial opinion seems to adhere to the view that the procedures involved therein are an integral part of the practice of medicine, while with respect to anesthesiology the courts have taken the view that the practice of anesthesiology is not part of the practice of medicine.

In all court actions the judge must necessarily reach a decision from the evidence adduced and the arguments of counsel. If a particular point is not fully covered in the evidence, one cannot justly criticize a judge for failing thoroughly to grasp the fundamentals of that point. Therefore, if one is to expect the courts to give careful consideration to these subjects and to render opinions based upon a thorough knowledge of the subject matter, it is vital that in every case in which the points are involved ample evidence be submitted to the court and then be carefully analyzed by counsel who have received a thorough explanation of the fundamentals involved from one who is qualified to do so.

It is extremely easy for persons who are not physicians or who are not skilled in the sciences under discussion to stray along side-roads and bypaths. For example, it has been seriously urged of late that the practice of radiology can be divided into a technical and a professional side and that the taking of a roentgenogram is no different from the taking of an ordinary photograph and is, therefore, merely a technical procedure. In fact, a similar misunderstanding of the nature of a roentgenogram caused a California District Court of Appeal to apply the rules of law governing the admission in evidence of enlarged photographs to *enlarged photographs of roentgenograms!* In *Sim* vs. *Weeks,* 7 Cal. App. (2d) at 40-41, the Court said:

> Appellant (physician) next assigns as prejudicial error the admission in evidence, over his objection, of enlarged

photographs of the x-rays. "While a picture produced by an x-ray cannot be verified as a true representation of the subject in the same way that a picture made by a camera can be, the rule in regard to the use of ordinary photographs on the trial of a cause applies *to photographs of the internal structure and conditions of the human body taken by aid of x-rays, and such a photograph,* when verified by proof that it is a true representation (citing *Kimball* vs. *Northern Electric Co.*, 159 Cal. 225 (113 Pac. 156), among others), is admissible in evidence." (Citing *Bruce* vs. *Western Pipe etc. Co.*, 177 Cal. 25 (169 Pac. 660), among others; 22 C. J. 916; see, also, note in 77 A. L. R. 946.) *"It is no objection to the admissibility of a photograph that it is enlarged, showing the subject or object magnified, where this does not have a tendency to mislead.* Photographs of instruments already in evidence which are so enlarged as to make the proportions plainer and to illustrate the testimony of the witnesses may go to the jury in the same way as would a magnifying glass or microscope." (22 C. J. 918.) It is for the trial court to determine from the evidence before it whether enlargements of photographs already in evidence are correct representations thereof, and its ruling will be sustained unless it is apparent that there has been an abuse of discretion.

It is apparent that the Court did not fully comprehend the vital distinction between a photograph and a roentgenogram. To the person untrained in roentgenology, the decision in *Sim* vs. *Weeks* and the "technical side—professional side" theory may appear somewhat reasonable and logical, but when it is explained that a roentgenogram and a photograph are entirely different, that photography is a mechanical process that records upon a film reflected light of varying intensity and produces a representation of the surface of physical objects as they appear to the human eye, while roentgenography does not record reflected light but is the process by which the effect of x-rays, passing through various human tissues, is recorded upon a film and thereby produces a record of the transparency of the various tissues to the x-ray, it is readily enough understood that the analogy between photography and roentgenology must fail.

SPECIAL ARTICLES

RATTLESNAKE-BITES

Health officers who may be interested in the life history of rattlesnakes, including habitats, control, bite and treatment, together with list of species and subspecies, will find a complete report in a recent publication of the San Diego Society of Natural History. It was written by Laurence M. Klauber, Curator of Reptiles and Amphibians for the Society. A nominal price, to pay the cost of publication, has been set.

Concerning rattlesnake bite and its treatment, the author makes the following statement:

"Although rattlesnakes are moderately plentiful in many areas of the United States which are frequented by large populations, especially on week-end excursions, hunting or fishing trips, or by hikers or campers, rattlesnake bite constitutes a relatively small accident risk; not to be compared, for example, to the chance of a highway accident. The naturally inoffensive and secretive character of the snakes, and the fact that people going abroad are usually well protected about the legs, reduce accidents. Only in a few areas of our country is the snake-bite problem sufficiently important to warrant much attention.

"The gravity of a rattlesnake bite is something which cannot be closely defined or predicted any more than one might predict the seriousness of a fall, without knowing the exact circumstances surrounding the accident, such as the height of the fall, the character of the surface struck, etc. And in a snake-bite case the conditions are even more obscure, since there are important factors which cannot be ascertained, even after the accident has occurred. So no one can give an offhand opinion as to the gravity of such a case; and correspondingly, while there should be no desire to exaggerate the gravity, it will be best, in the interest of safety, to overtreat rather than undertreat the case, provided a proper treatment is used. In any event the victim should remain under close observation for at least forty-eight hours.

"Some of the more important variable factors involved in snake-bite cases are the following:

"1. The size, vigor, and health of the victim, these being important in determining absorptive power and resistance to venom.

"2. The allergy complex of the victim; his susceptibility to protein poisoning; sensitization (anaphylaxis), or partial immunity imposed by previous bites and treatment. Some individuals are so susceptible to venom that the mere handling of it causes typical asthmatic symptoms lasting for twenty-four hours or more; most persons under similar circumstances are entirely unaffected.

"3. The psychological condition and nature of the victim; extreme fear, and apprehension will affect heart action and, therefore, rapidity of absorption; and it is not impossible that there may be more direct reactions.

"4. The site of the bite, which will be less dangerous in the extremities, or in tissues where absorption will be less rapid (fat, for example), as compared with a bite near the vital organs or penetrating a vein.

"5. The nature of the bite, whether a direct stroke with both fangs fully imbedded, or a glancing blow or scratch. The movement of the victim (jumping backward, for instance) may cause a partially ineffective bite; or a bone may be struck, thus causing imperfect penetration. The snake may misjudge his distance and have the fangs only partially erected at contact, thus resulting in only slight penetration; or he may, for the same reason, eject venom before the fangs are imbedded.

"6. The protection afforded by clothing, which, by interposing thickness, will permit less depth of fang penetration, and will cause the external and harmless absorption of part of the venom. Only the point of the fang may penetrate the skin, in which case there will be no venom injection, for the orifice is well above the tip.

"7. The number of bites; occasionally an accident involves two or more distinct bites.

"8. The length of time the snake holds on; it may withdraw or be torn loose before injection takes place. This is likely to be more important with the elapine snakes, with their less specialized fangs, than with such long- and hook-fanged snakes as the rattlers.

"9. The extent of the anger or fear upon the part of the snake. The muscles which wring the venom glands and thus inject venom are separately controlled from the biting mechanism. The snake's natural tendency is to withhold venom, since this is his means of securing prey; but if hurt or violently angered he is likely to inject a large part of the venom contained in the glands.

"10. The species and size of the snake, affecting venom toxicity and physiological effects, venom quantity, and (by reason of length and strength of fangs) depth of injection. The age of the snake is, likewise, important; not only are young snakes less dangerous because of their smaller size (and, therefore, reduced quantity of venom), but also the venom is less toxic, judging from the reduced proportional recovery of solids upon evaporation. Snakes which have passed their prime also probably secrete less venom and of a reduced quality.

"11. The condition of the venom glands, whether full, or partially depleted or evacuated by reason of recent feeding, defense, ill health, or captivity. The season of the year (proximity to aestivation or hibernation) may also cause a variation, but this is not definitely known.

"12. The condition of the fangs, whether entire or broken, lately renewed or ready for shedding.

"13. The presence, in the mouth of the snake, of various microörganisms, some of which, gaining access to the wound, may, abetted by the antibactericidal effect of the venom, entail serious sequelae.

"14. The nature of the instinctive first-aid treatment, if any, such as suction, or circulation stoppage by pressure.

"To conclude, with variable factors of such importance, it is to be expected that some cases will prove extremely grave, whereas others may cause little or no discomfort. It is the latter class (which really require no treatment) that have given an entirely fictitious value and reputation to some of the remedies which have been proposed, for